

Social Design and Operations Research

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THE United States has become the world's first service economy—the first country in which more than half of the employed population produces services instead of tangible goods (1). Yet many Americans in all stations of life are dissatisfied with the basic services available from our society: education, housing, transportation, health care, public safety, and the processes of community change and development. These “domains” are vast in physical dimension and social effect, are interdependent on each other in various ways, and are changing under the drive of their separate technologies.

One may say that there is a quiet, desperate feeling emerging all across the increasingly affluent yet increasingly disarticulated and disaffected society. This feeling is so general and pervasive that it is no longer useful or meaningful to assign blame or responsibility either to the public or to the private sector. It may not be too much to suggest that the assumptions and methods we use as a nation to reestablish public satisfaction with our service-based society will largely determine the culture of the United States in the next half century.

A Design for Reconstruction

I think it may be useful to discuss several assumptions and methods that could be used to create greater social cohesion and personal satis-

faction without reference to the particular agency or group that would have the responsibility for action. This approach may make it possible to look at issues holistically and perhaps to break through the intellectual barriers that are interposed when one presumes that Frederick William Maitland's “seamless web of history” can never be woven on a new loom.

Seemingly, five elements must be constructed or reconstructed in any effective approach: social design, involvement of large numbers of consumers in the design process, development of institutions for leadership and responsible performance, conscious and highly overt attention to methodology for social design and effective institutions, and a large investment in research and development of the other four elements. Readers of science fiction have noticed that the age-old problems of persons living with themselves and with others form the main plotline of stories laid in the 25th century. Space rockets and time machines merely provide an imaginative setting for old situations. I am suggesting that the task of the United States and other developed countries is to try to reverse the science fiction plots by making imaginative changes take place in the realm of personal and social problem solving. If these changes do not happen to an appreciable extent, science fiction may become fact.

What does “social design” mean? It can mean deliberately planning to use more and more resources to make life more predictable and comfortable for the ordinary person. Such planning could mean going to rather great lengths to guarantee as far as possible that no one will be without nutritious food, lack good medical care, live in a bad house, be overtly excluded from public and group association and participation because of prejudice, and so on. These steps

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would mean not only greater material welfare but also might mean greater freedom for each person. Myrdal (2) has pointed out that lack of planning in the United States results in more, not less, official intervention in the lives of each citizen. There is no science fiction in the content of this list. All these items exist now for varying segments of the population, but not for the whole population and not on any basis that assures these services as a common social environment for all.

A deliberate design for any one of these objectives, however, would require change in the following elements:

1. The selected needs and desires to be maximized would have to be defined in objective operational terms related to some of the productive functions and desired parameters of some preliminary design configuration.

2. Certain criteria and parameters of urban and regional development would be needed.

3. The preceding elements would require better large-scale data systems covering the chosen service or services as well as urban and regional development.

4. Since maximizing the chosen service would cause both direct and peripheral displacements and adjustments in the activities of organizations at local, State, and national levels as well as shifts in employment, the design would have to include plans for accommodating these changes as a necessary condition of action on the main operation.

5. Perhaps not initially, but eventually, changes in local, county, State, and national legislation might be needed.

So far, little has been said or need be said about the technical content of such a design. The obviously important point lies in recognizing that the design must be a logical framework that encloses and orders a very large sector of social organization and action. Another concept should be made very clear. There are no perfect solutions. What is wanted is a knowledgeable approximation to a given design plus an ongoing planned effort to maintain and update the solution. Simon (3) has suggested that public planning should deal with "standardization" problems, such as coordinating manpower and institutions with technological policies, and should leave other matters to the operation of

local markets. For immediate needs the analogies of chess could be used, with several alternative openings and some plans for playing the middle game.

Public Involvement

Social design as described should not even be considered seriously in a developed country unless it provides for participation of the majority of people who would be affected. To attempt otherwise would be to set aside democratic decision-making methods and thereby guarantee an increase in the number of dissatisfied persons in the society. Since the ultimate goal of the design is to increase individual and group well-being and harmony, the capability of involving people may be the major limiting factor of the whole scheme.

Myrdal (2a) thinks that the first condition for planning in the United States is to reach the people and enlighten them as to social and economic facts and the possible ideals and then the policy conclusions which may be drawn from the combination of facts and ideals. Can local government do this? Local government has been esteemed because it supposedly is representative by being close to small-scale interests and situations of people. Could local government assume a new kind of educational role in which the interests and choices of the consumer are made foremost? The issue of more adequate consumer representation is already rising independently, although the emphasis is on other types of consumption.

In the long run, however, giving local legislatures and administrative agencies a more constructive role as the public advocate on larger social issues should be seriously considered. There seems to be no alternative to either reviving the old public agencies or substituting new institutions with mandates for action on behalf of a small number of general interests. These new agencies would then become "local government." The interests might replace a large part of the present welter of local public activities.

Representation is one aspect of the increasing attention being given to devising institutions for effective leadership and performance on social problems. Etzioni (4) wrote on this subject early in 1969. The National Aeronautics and Space Administration and the Communications Satel-

lite Corp. are such organizations, although narrowly technological. A national corporation for educational television is another. The military has launched studies through several organizations, such as the RAND Corporation and the Institute for Defense Analysis, aimed at generating greater creative power and greater freedom to act. But these organizations are engaged in research and development where it is easier to generate free-standing activities.

There seem to be several criteria for the emergence of better social design institutions: (a) they must represent and advocate the vital interests of masses of people, (b) they must educate and expand the awareness and sensibilities of masses of people, (c) they must develop and carry out social designs of the types described, (d) they must be staffed with people capable of conceiving and executing social designs, and (e) they must have the legal, geographic, and fiscal jurisdictions adequate and appropriate to the designs.

To move in these directions simplification and perhaps regrouping of activities are needed. The number of services intended to meet these basic social problems must be reduced to the minimum. Could health and welfare services be consolidated conceptually and operationally? Could general and vocational education be combined in a better system for preparing young people for employment? Could the design, planning, and development of better health, welfare, education, and other services be more closely associated with housing construction, urban planning, and development? India, for example, has a national Ministry of Health, Family Planning, and Urban Development. If future Federal financial aid is to move in the direction of block grants, some functional regrouping of local public service agencies will have to take place or the grants will be fragmented into their traditional compartments when they are received at the level of operations.

It might help to group services and functions into three types: interstate matters such as transportation, environmental control, and urban location planning; intrastate matters such as health, welfare, education, and housing construction and management; and local matters such as public safety and sanitation. Each set could operate primarily within different geo-

graphic areas. It might also be beneficial to base the planning and general management, financing, and evaluation of all services at interstate and intrastate levels.

New Cities Created

The methodology for all this would consist of components that in themselves would be massive and complex. Perhaps the first component could be skeleton designs for whole cities—after the idea propounded by Athelstan Spilhaus, dean of the Institute of Technology, University of Minnesota, for an experimental city in Minnesota. Following Spilhaus' theory, these wholly designed cities would fix the population size; the communication, transportation, and power networks; and the location of certain other facilities. These fixed elements could provide bases for the location and size of other elements. A number of different designs for different types of cities would be needed, as well as many variations in the components out of which total designs would be formed.

Something like this approach is essential if we are to eliminate the national backlog of poor housing and properly meet the needs of the oncoming millions in population. The ideas are not "way out." The necessary technology is available. A new city called Columbia is in the process of development north of the District of Columbia, near Baltimore, Md. Reston, another new city, is across the Potomac in Virginia, about halfway between Arlington County and Leesburg.

Along with all new cities, the designs and development of interstate grids for transportation, communication, and electric power are necessary. These facilities comprise the net on which city designs can be hung.

Federal and State policies dealing with housing and mortgage financing, transportation, aids to industry, and so forth would be expected to favor the creation of new cities, using these designs and grids. The cities could be built, at least in skeleton form, by nonprofit urban development corporations. The corporations could also renew large sections of older cities by applying components selected from the designs for the new cities.

Probably an urban site-selection process would be essential. This process would operate

under criteria to distribute population in manageable sizes and various locations and to assure that all cities and their environs enjoyed comparable basic amenities. Differences in the climate, continental location, and size of the cities would permit individual persons and organizations a considerable variety of choice. Restrictions would be exercised on the original sites of new cities, on the location of institutions, and on the production functions. Each person would be free to choose his own place for living.

A social policy of this type would have to be enlightened by information that is not presently available. Data indicating mobility and location preferences of the people, as well as satisfaction with services and structural features of cities and rural areas, would be required for the management of each area and to indicate needed improvements in the general method. A serious attempt to develop social indicators would be needed.

Research Basis

Next, a research basis for social design and action should be considered. Such research must carry a double burden for some time to come. It must assist in getting rid of old fears and inhibitions and at the same time attempt to construct the means of more effective social design and action. At present we are possessed by powerful inhibitions against large-scale action for the peacetime general welfare. This overburden has to be removed by constructive contrast of existing assumptions and restraints with new alternatives that have been thought through.

Building these new alternatives is a research and development task because of the need for data, analysis, reconfiguration of data on the basis of new assumptions, and the creation and testing of new methods and institutions. There are perhaps three basic areas for research, although there are many subsidiary ones. The basics are individual values and life goals, the degree to which institutions are capable of satisfying individual values and life goals, and the degrees and types of risk and uncertainty that each person must accept because of the probable gap between these values and goals and institutional capabilities.

Perhaps these areas cannot be researched by methods developed in the traditional sciences. If not, they should be approached by the broader speculative methods derived from philosophy, history, religion, and art. In any event, the immediate lack of obviously applicable methodology should not inhibit the quest for a body of ideas and information that can be publicized and debated as the motivational core of social design. Greater clarity about these subjects and greater awareness of their importance form the goal, rather than absolute precision or reduction to any single set of premises.

Both values and institutions can be studied by comparative methods. If data are gathered on an international scale and are then arrayed comparatively, the results may prove quite valuable. It may be possible to see general relationships among institutions and processes, social results, and underlying values. From that kind of perspective, it might be possible to launch social design.

I have suggested a possible future setting and task for systems analysis and operations research. The growing acceptance of analytic approaches to large-scale qualitative social phenomena will legitimize the public consideration of large-scale efforts. The increased use of quantitative results of operations research will give us more precisely functioning components in the services sector. Thus the increasing power of methodology will change public policy.

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Tearsheet Requests

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